

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
26 May 2005 (26.05.2005)

PCT

(10) International Publication Number  
**WO 2005/048541 A1**

(51) International Patent Classification<sup>7</sup>: **H04L 12/56**

(21) International Application Number:  
PCT/KR2003/002917

(22) International Filing Date:  
30 December 2003 (30.12.2003)

(25) Filing Language: Korean

(26) Publication Language: English

(30) Priority Data:  
10-2003-0079865  
12 November 2003 (12.11.2003) KR

(71) Applicant (for all designated States except US): ELEC-  
TRONICS AND TELECOMMUNICATIONS RE-  
SEARCH INSTITUTE [KR/KR]; 161, Gajeong-dong,  
Yuseong-gu, 305-350 Daejeon (KR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): YUN, Kug-Jin  
[KR/KR]; #102-903 Hanul Apt., Sinseong-dong,  
Yuseong-gu, 305-707 Daejeon (KR). AHN, Chung-Hyun

[KR/KR]; #101-705 Hyundai Apt., Doryong-dong,  
Yuseong-gu, 305-340 Daejeon (KR). KANG, Hoon-Jong  
[KR/KR]; #302, 126-12, Sinseong-dong, Yuseong-gu,  
305-345 Daejeon (KR). HUR, Nam-Ho [KR/KR];  
#610-801 Yeolmae Maeul Apt., 880, Jijok-dong,  
Yuseong-gu, 305-330 Daejeon (KR). CHO, Suk-Hee  
[KR/KR]; #301, 137-11, Sinseong-dong, Yuseong-gu,  
305-345 Daejeon (KR). LEE, Soo-In [KR/KR]; #106-606  
Clover Apt., Dunsan-dong, Seo-gu, 302-772 Daejeon (KR).

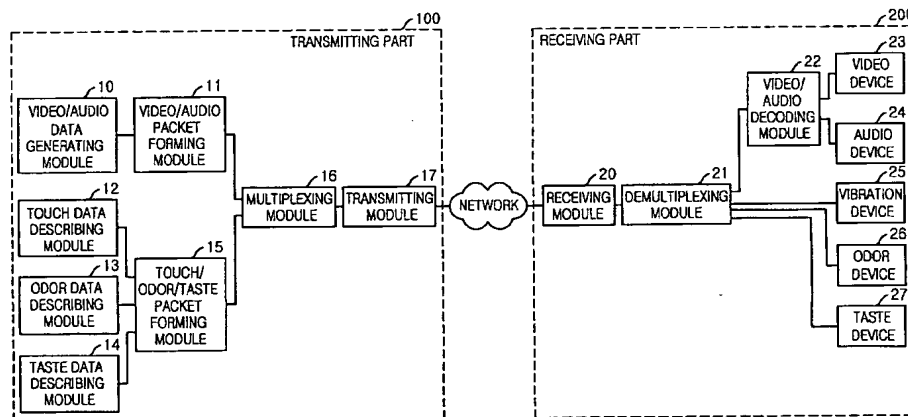
(74) Agent: SHINSUNG PATENT FIRM; Haecheon Bldg.,  
741-40, Yeoksam 1-dong, Kangnam-gu, 135-924 Seoul  
(KR).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,  
AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO,  
CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB,  
GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG,  
KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,  
MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT,  
RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR,  
TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (BW, GH,  
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

[Continued on next page]

(54) Title: APPARATUS AND METHOD FOR TRANSMITTING SYNCHRONIZED THE FIVE SENSES WITH A/V DATA



(57) Abstract: Provided is a five sensory data synchronizing and transmitting apparatus and method, and an actual-feeling multimedia data providing system and method using the same. The five sensory data synchronizing and transmitting apparatus and method forms packets by describing vibration, and odor and a taste expressed in video/audio based on touch, odor and taste data descriptors and synchronizes the touch/odor/taste packets with video/audio packets on a frame basis; and then, the actual-feeling multimedia data providing system and method demultiplexes the received packets transmitted from the five sensory data synchronizing and transmitting apparatus into video data, audio data, touch data, odor data and taste data and transmits them to corresponding devices to thereby provide a user with an actual-feeling multimedia service.

WO 2005/048541 A1



European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**Published:**

— *with international search report*